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Federal Communications Commission
Office of the Secretary

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Advanced Television Systems and their Impact on the Existing Television Broadcast Service	)	
	)	
Review of Technical and Operational Requirements: Part 73-E, Television Broadcast Stations	)	**MM Docket No. 87-268**
	)	
Reevaluation of the UHF Television Channel and Distance Separation Requirements of Part 73 of the Commission's Rules	)	

To: The Commission

REPLY COMMENTS OF
THE LAND MOBILE COMMUNICATIONS COUNCIL

The Land Mobile Communications Council ("LMCC") is pleased to submit these Reply Comments in response to the invitation of the Federal Communications Commission ("Commission") in the Tentative Decision and Further Notice of Inquiry in the above-captioned proceeding, released September 1, 1988 ("Notice").1/

1/ LMCC's Preliminary Statement, identifying its member organizations and describing its participation throughout the course of this and the related proceeding in General Docket No. 85-172 (the "UHF Sharing" proceeding), discussed infra, is contained in its initial Comments, filed on November 30, 1988. It should be noted that United States Telephone Association, a LMCC member organization, did not participate in the

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I. REPLY COMMENTS

1. Throughout this proceeding, LMCC has urged the Commission to require that any ATV standard that is adopted be constrained to the 6 MHz channel bandwidth currently assigned to over-the-air television broadcasters. This approach would enable the Commission to proceed with the long-delayed UHF Sharing Proceeding, Gen. Docket No. 85-172,2/ which would provide urgently needed spectrum relief for Private Land Mobile Radio Services.

2. The record developed in this proceeding illustrates the extensive support generated in favor of the Commission's tentative preference for "ATV systems that can provide services using the least spectrum." Notice, ¶ 82. It has been widely accepted that such a standard would allow for a faster transition to ATV, thereby benefitting broadcasters, television manufacturers, and consumers, while avoiding the

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formulation of the Reply Comments.

2/ Notice of Proposed Rulemaking, In the Matter of Further Sharing of the UHF Television Band by Private Land Mobile Radio Services, Gen. Docket No. 85-172, 50 Fed. Reg. 25,587 (June 20, 1985).

"complex and costly" nature of assigning additional spectrum. Notice, ¶ 88.

3. The Comments received in this proceeding provide many options available to the Commission that will enable it to meet these laudable public interest objectives. For instance, the NTSC-compatible ATV system supported by the National Broadcasting Company, Inc. (NBC), among others, would achieve spectrum efficiency and conservation, and can be implemented in an efficient and manageable timeframe. As NBC has stated, "an NTSC-compatible ATV system that can be implemented using every existing broadcaster's 6-MHz channel presents the fastest, most cost-effective way of bringing ATV to American consumers."3/

4. There are additional, alternative means of achieving improved television picture and sound quality that have been presented for the Commission's consideration in this proceeding. These types of improvements can be achieved without a problematic overhaul of spectrum allocations, and without waiting for ATV standards to be finally adopted by the Commission and implemented by the television industry. These alternatives are based on readily-available technological changes to existing transmission and receiver quality. The

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3/ Comments of NBC, p. 2.

Commission itself has stated that existing transmission problems would need to be rectified under whatever new system is adopted, recognizing the vulnerability of current signal transmissions to channel degradation.

5. If, as some commenters recognize, "[t]he presence of random noise, interference, multipath, and imperfect frequency response in terrestrial broadcasting channels, and of pervasive low-level reflections in cable systems, degrades the quality of most television reception,"4/ and "[t]hese effects tend to reduce the difference in quality between that of NTSC and that of various advanced television systems, as actually delivered to the home via such channels,"5/ then perhaps the Commission should begin to encourage broadcasters to improve their transmission quality, and TV set manufacturers to improve their current equipment reception quality, before proceeding any further with this proceeding. It may very well be the case that any appreciable and recognizable difference by viewers of the qualitative picture improvement that can be achieved

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4/ See "Reliable EDTV/HDTV Transmission in Low-Quality Analog Channels," p. 3, William F. Schreiber and Andrew B. Lippman, The Media Laboratory, Massachusetts Institute of Technology, included as Appendix ATRP-T-96R in Comments of William F. Schreiber, Professor of Electrical Engineering, Director, Advanced Television Research Program, The Media Laboratory, Massachusetts Institute of Technology.

5/ Id.

through innovation in reception and transmission technology, may well be close to or equal to the public's perception of ATV quality vis a vis existing NTSC signals.

6. For instance, Waterway Communications System, Inc. has stated that the Commission should address minimum technical standards for television receivers, citing reports that as much as a 45 dB variation in the upper adjacent channel interference susceptibility is present among existing television receivers.6/

7. Similarly, the comments submitted by the Mobile Communications Division of the Telecommunications Industry Association ("TIA") discuss the development of various technical approaches that use less power, permitting closer co- and adjacent-channel distance separation requirements, as well as elimination of the so-called UHF "taboo" restrictions. Studies conducted by TIA show that such techniques could enable the UHF-TV band to be "repacked," permitting anywhere from 40-60 MHz, to upwards of 100 MHz of additional spectrum that could be made available for mobile communications purposes.7/

6/ Comments of Waterway Communication System, Inc., p. 3, (citing Comments of Association of Maximum Service Telecasters in Gen. Docket No. 88-372, September 26, 1988).

7/ Comments of the Mobile Communications Division of the Telecommunications Industry Association, p. 3.

8. In considering the complex issue of ATV, the Commission must recognize that these types of alternative sound and picture enhancements are currently available. Hitachi has developed a fullband tuner with high immunity performance, low cross-modulation, inter-modulation and low-oscillation signal leakage, which would minimize current conventional UHF channel separation limits.8/

9. Through such developments in improved receiver/antenna and transmission technology, the broadcasters' long-standing and incredibly inefficient practice of using not more than half the available UHF television channels in any locality because of interference conditions might be eliminated or substantially reduced.

10. Inasmuch as the Commission is already contemplating that ATV technology must possess greater interference immunity, the Commission should as a threshold matter also ascertain whether ATV-like improvements can presently be implemented by broadcasters and television manufacturers using more conventional UHF signals and

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8/ See Letter to Mr. Bruce Franca, Deputy Chief Engineer, FCC from Mr. Kei Yamashita, Senior Researcher, Hitachi Sales Corporation of America, dated November 10, 1988.

receivers, and if so, whether such use would both alleviate existing interference problems and allow any ATV technology to be developed within currently allocated broadcast spectrum. Rather than analyzing the possibilities of ATV as the sole emphasis of this proceeding, the Commission should concurrently focus this proceeding on the impact of state-of-the-art transmission/reception technology in current, existing broadcast operations. It should then weigh the public interest benefits presented, and determine whether the better picture and sound quality achieved by such improvements would satisfy the public's perceived "desire" for ATV, and in the long run, achieve a more balanced and efficient use of the broadcast spectrum.

WHEREFORE, THE PREMISES CONSIDERED, the Land Mobile Communications Council urges the Federal Communications Commission to proceed in a manner consistent with the views

expressed herein; and to move forward expeditiously with the decision in this and the UHF-TV sharing proceeding.

Respectfully submitted,

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